

CREATURES OF CORCOVADO, COSTA RICA



Compiled by Dartmouth students on the Biology Foreign Study Program 2009

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<http://costa-rica-guide.com/Natural/graphics/Corcovado.png>



<http://www.costaricabureau.com/corcovadomap.htm>

MAMMALS

Baird's Tapir – Danta – *Tapirus bairdii*

Size: 2 m, 250 kg (80 in, 550 lbs)

Characteristics: Large, hooved, slow-moving mammal. Can be very agile when fleeing predators.

Behavior: Generally solitary. Swims in slow-moving rivers or forages silently through vegetation.

Diet: Leaves, stems, and fruit. Over 70% of active time spent eating, averaging over 15 kg of food/day.

Habitat: Can live from sea level (like in Corcovado) to the highest mountains in Costa Rica (over 12,000 ft). Typically near water.

Status: Only a few hundred left in Costa Rica, with the majority of these in Corcovado. Hunted extensively outside of parks for meat and hides.

Fun fact: Almost always poop in water to mark



Tapir

Jaguar – tigre – *Panthera onca*

Size: 1.5 m, 80 kg (60 in., 175 lbs)

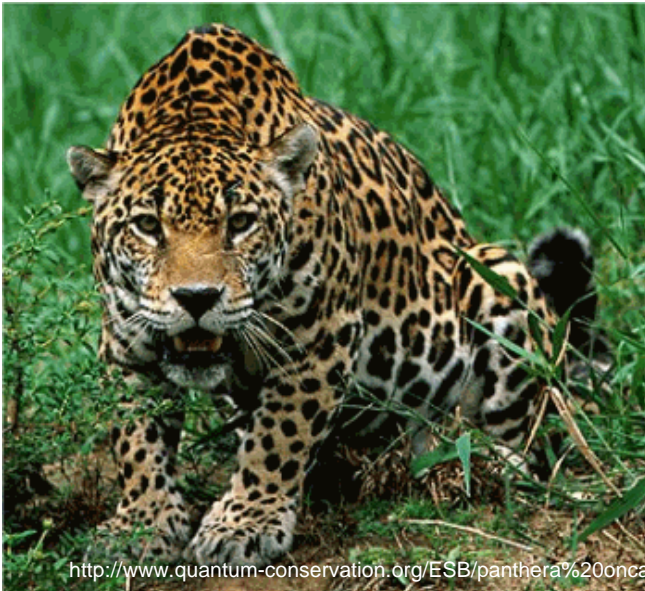
Characteristics: Largest cat in Costa Rica, very powerful jaws and very agile.

Behavior: Active during night and day, stalks and ambushes prey at close range. Very sensitive to human activity, avoids human inhabited areas.

Diet: Very flexible, from deer, peccaries, and iguanas to sloths, monkeys, and sea turtles. Consume over 1 kg of meat/day.

Habitat: From sea level to 3,500 m in most habitats, but predominately in protected tracts of low wet forest. Corcovado is only place in Costa Rica where they are common.

Status: Critically endangered. In past, fur trade diminished jaguar populations, while today habitat loss and killing by hunters and farmers threatens population. Very little jaguar habitat



Jaguar

**White-Lipped Peccary – Chancho de monte –
*Tayassu pecari***

Size: 1 m, 30 kg (40 in, 66 lbs)

Characteristics: Medium-sized, hooved mammal with tusks and white fur on its chin. Lacks white collar on back that distinguishes it from the more common Collared peccary.

Behavior: Found in herds up to 30 animals, which scour undergrowth for food. Can be approached closely, but bark when threatened.

Diet: Omnivorous - eat fruits, seeds, roots, insects, small animals, and occasionally fungi.

Habitat: Large areas of undisturbed forest. Only commonly seen in Corcovado.

Status: Endangered – an indicator species, meaning it is one of the first animals to disappear from an area due to habitat degradation. Meat is also highly prized by hunters.

Fun fact: You often smell them before you see them (a gland produces a smell like bad body odor). The single-most important prey for jaguars.



White-lipped peccary

**Three-toed sloth – Perezoso de tres dedos –
*Bradypus variegatus***

Size: 60 cm, 4 kg (24 in., 9 lbs)

Characteristics: Medium sized mammal living in trees, with sharp claws for climbing.

Behavior: One of slowest moving mammals on earth, spending most of time resting and foraging

Diet: Eats leaves, twigs, and buds. Has one of the slowest digestive systems of all mammals, food can take four days to pass through their body. Because of this slow digestion, they only need to come down from the trees to defecate once a week.

Habitat: From sea level to 2,400 m in primary and secondary forest.

Status: Although it is rarely seen because of its camouflage and slow movement, it is one of the most abundant Costa Rican mammals.

Fun fact: Algae grows in their fur providing camouflage and supporting a community of beetles, moths, and mites, some of which complete their entire life cycle on the sloth.



Sloth

Northern Tamandua (Ant-eater) – Oso hormiguero – *Tamandua mexicana*

Size: 60 cm, 4.5 kg (24 in., 10 lbs)

Characteristics: Small brown mammal with black patch around torso. Has long snout, prehensile tail, and long claws.

Behavior: Solitary, active during night and day foraging in trees and on ground.

Diet: Contrary to name, diet consists mostly of termites. But also eat ants and bees. Eats about 9,000 termites or ants per day by ripping open nests with sharp claws.

Habitat: From sea level to about 1,500 m in forest and agricultural areas.

Status: Most common anteater in Costa Rica. Not threatened by hunting.

Fun fact: Anteaters don't have teeth! Instead, they have an enormous tongue with sticky saliva and tiny spines protruding from it to lick up their prey.



Tamandua

White-nosed coati – pizote – *Nasua narica*

Size: 55 cm, 5 kg (22 in., 11 lbs)

Characteristics: Medium sized mammal, similar to raccoon, with slender striped tail, long-nose, and white face.

Behavior: Mostly active during day and easily habituated to people. Females and young form bands of up to 25 individuals, while males are typically solitary.

Diet: Omnivores, eating insects on the forest floor, fruit, and small animals.

Habitat: Live in nearly any type of forest, from sea level to 3,500 m. Quite agile tree-climbers, but also often found foraging on forest floor.

Status: Very abundant. In fact, the most commonly seen mammal in Costa Rica.

Fun fact: In some parts of Costa Rica the major predator on coati young is the capuchin monkey, who is so effective at raiding nests that almost no young survive.



Coati

MONKEYS

These four species of monkey live on the Osa Peninsula in Corcovado National Park:

Central American Spider Monkey – Mono colorado, mono araña – *Ateles geoffroyi*

Size: 50 cm, 7 kg (20 in, 15 lbs)

Characteristics: Fast moving, agile. Long limbs, arms 25% longer than legs, strong prehensile tail, barely visible vestigial thumb allows them to swing through tree tops without interference. Females often mistaken for males due to a penis-like clitoris.

Behavior: Travels in communities of 1-35, often splitting into smaller groups during the day to forage, spends only 1/5 of day resting.

Diet: spends 70-80% of foraging time eating fruit, supplements with a few leaves and flowers. Important seed dispersers.

Habitat: Lives in primary forests.

Status: Endangered, threatened by deforestation, habitat fragmentation, and hunting for meat.



Mantled Howler Monkey – Mono congo, mono aullador – *Alouatta palliata*

Size: 50cm, 5kg (20 in, 11 lbs)

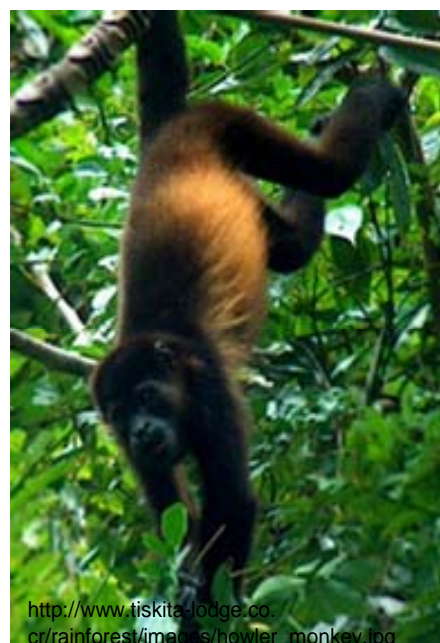
Characteristics: Long, reddish fur, males' calls are loud roars, often audible several km away, males have conspicuous white testicles.

Behavior: Groups range from 2-45, but most often 10-18. Slow moving and sedentary due to low energy diet, spend 3/4 of day and all night resting or sleeping. Relatively easy to observe, known to defecate on onlookers if threatened.

Diet: Fruits and leaves.

Habitat: Lives in primary and old secondary forests.

Status: Endangered, threatened by deforestation and some hunting for meat.



Central American Squirrel Monkey – Mono Tití, Mono Ardilla – *Saimiri oerstedii*

Size: 30cm, 0.9 kg (12 in, 2 lbs)

Characteristics: Small monkey, with white face, black cap, black muzzle, orange back, and non-prehensile tail.

Behavior: Travels in groups of 20-70, spends 2/3-3/4 of day foraging.

Diet: A voracious omnivore, primarily eats fruits nectar, and insects; also eats spiders, bark, and even small vertebrates.

Habitat: Likes areas with low and mid-level vegetation, frequents secondary or partially logged primary forests.

Status: Critically endangered, estimated 3,000 surviving individuals, the most endangered monkey species in Central America. In Costa Rica the primary threat is habitat loss from deforestation. During the 60s and early 70s thousands were exported for biomedical research and the pet trade. Over 173,000 were sent to the US alone between 1968 and 1972.



White-Throated Capuchin – Mono cara blanca, mono cariblanco – *Cebus capucinus*

Size: 40cm, 3kg (16 in, 6.5 lbs)

Characteristics: Blackish fur on body, cream-colored fur around face, shoulders, and chest, pinkish face.

Behavior: Travels in groups of 2-24.

Diet: Eats fruits and insects, the most omnivorous of Costa Rican monkeys, eats almost anything it comes across.

Habitat: Wide range of forests including disturbed, primary, and secondary.

Status: Threatened by deforestation, and habitat fragmentation.



****Tips for spotting monkeys: Look for tree tops that are moving, look up if you hear snapping twigs or if something falls from above, or follow the calls of howler monkeys****

Sources:

Wainwright, Mark. 2002. *The Natural History of Costa Rican Mammals*. Zona Tropical.

Emmons, L.H. 1990. *Neotropical Mammals: A Field Guide, Second addition*. University of Chicago Press. Chicago.

LIZARDS THAT RUN ON WATER

Basilisk lizard, Garrobo, *Basiliscus, basiliscus*

The basilisk lizard is a common inhabitant of streams and rivers in Corcovado National Park and the Pacific coast of Costa Rica. These charismatic reptiles grow up to 1 m long including the tail, and adult males resemble miniature dinosaurs, with prehistoric sails on their heads, backs and tails. The basilisk has been christened “Jesus Christ” lizard for its ability to run on water, a trait which helps it to forage and escape predators such as raptors, opossums, and snakes. Of course, the lizards do not actually *walk* on water - they have very large hind feet with flaps of skin between their toes which allow them to skip across the water’s surface on two legs.



Basilisks are most active during the day, when they forage for insects, small fish and snakes, or even flowers and some fruit. It is easy to spot these lizards by walking along any of the waterways around Corcovado National Park. Because they are very skittish basilisks are most often discovered running after they have been disturbed. One may also spot these elusive lizards scurrying away through the underbrush or running across water to the safety of branches overhanging the water.

Data from basilisk populations in the Guanacaste region of Costa Rica indicate that female basilisks typically produce clutches of 2-18 eggs about 6



times per year. Despite such productivity, long term studies conducted by Dartmouth College students on the basilisk populations in the Sirena area of Corcovado National Park show a steady decrease over the past 10 years. The causes of this decline are not clear, but the basilisks remain one of the most easily identifiable reptiles along the Corcovado’s streams and rivers.

CROCODILIANS

Caiman, Lagarto, *Caiman crocodilus*

Caimans share the waterways of Costa Rica with their larger relative, the American crocodile. Caimans most often occupy small creeks or brackish mangrove swamps in the interior of both Atlantic and Pacific lowlands. Male



caimans reach only 1 m not including the tail, while females average 80 cm. It is not always easy to distinguish a caiman from a young crocodile. Caimans have a more narrow snout and their entire head and snout are visible above the water while they swim,

whereas for crocodiles only the nostrils and eyes protrude from the surface. Water birds such as herons and egrets are the greatest threat to young caimans, while the only predators of adults in Costa Rica are humans. Caimans hunt fish and amphibians in their riparian habitat, and males temporarily establish and defend aquatic territories during courtship.

American Crocodile, Cocodrilo, *Crocodylus acutus*

In Corcovado National Park, crocodiles are easy to spot along the Río Sirena. Crocodiles there have been reported to reach at least 3m so it is important to exercise caution along the river banks, and swimming in the Sirena is extremely dangerous. Crocs have also been reported near the mouth of the Rio Claro, though they were mostly young individuals of no more than 2 m. The crocodile is a large, powerful predator and has been observed to prey on fish, tapirs, and other mammals in Corcovado.



Photo by: Derek Stenquist, Palo Verde National Park, Costa Rica

UNDERSTORY REPTILES

Anolis Lizard, Lagartija, *Norops polylepsis*

Extremely common throughout Costa Rica, the anolis lizard makes up for in abundance what it lacks in size. Adults range from 30 to 60 cm in body length and males have a brightly colored flap of skin under their throat called a dewlap.

Dewlaps are important for territorial and mating displays and are often shades of orange and yellow. Males display them by extending a bone under the chin to which the flap is attached, like a flag. The lizards are almost everywhere along forest trails where they perch at the base of trees and



dart into the leaf litter to catch invertebrates. Body coloration is variable, mostly cryptic brown, though some females have white dorsal stripes or a diamond pattern. Look closely after disturbing the leaf-litter while walking the trails at Corcovado, and it is easy to spot these small, energetic lizards.

Fer-de-Lance, Terciopelo, *Bothrops asper*



One of the most feared snakes in Central America, the Fer-de-Lance is abundant in lowland areas like Corcovado. They are common along riverbanks or in overgrown fields, and will often strike if stepped upon. Fer-de-Lance venom is very potent and can be fatal to humans, but anti-venom treatment is readily available in Costa Rica. Young snakes are mostly in trees and feed on frogs in the canopy. But as they mature, Fer-de-Lance move to the ground and grow to up to 2 m, hunting mammals and birds, with a preference for opossums.

Photo by: Jeremy Chan, La Selva Biological Reserve, Costa Rica

Adapted from:

Janzen, D.H., editor. 1986. Costa Rican Natural History. University of Chicago Press, Chicago, IL., USA.

ANTS

If many hands make light work, then imagine how efficient and productive a colony of a million ants could be! Ant colonies (like those of their close relatives, bees and wasps) function like a single super-organism: worker ants specialize in finding and transporting food, soldier ants protect the colony from intruders, and queens are egg laying machines that can produce up to 150 million offspring, enough to create an entire new colony of ants!

To support so many ants, colonies must spend a lot of time foraging. Like many ants, army ants and leaf cutter ants follow pheromones trails through the Central American rainforest to and from their food sources, and sometimes these paths cross the hiking trails in Corcovado National Park.

LEAFCUTTER ANTS:

Leafcutter ants are farmers. You can often see a trail of them, carrying pieces of leaves, stretching tens of meters from their nest. However, they don't actually eat these leaves. Instead, they use them to grow a delicious fungus. Every ant is responsible for a



Photo by: James Hung, La Selva Biological Preserve, Costa Rica

part of this labor-intensive task. The smallest ants clean the leaf, removing other fungi and creatures that interfere with their fungus crop. Medium sized ants cut leaves from plants (see photo) and carry them to the nest. The largest ants, more than ten times the size of the smallest ones, are soldiers—they have enormous heads and jaws to defend the colony and its ant highways.

Leafcutter ants lay down very strong pheromone trails through the forest to help colony members find their way from the nest to a leafy plant and back. They maintain these trails meticulously, picking up any debris that falls on them and moving it to the side. Next time you see a tiny little dirt path about 5cm wide across the forest floor, it might be a leafcutter highway!

ARMY ANTS:

Army ants are voracious hunters. They swarm through the leaf litter, into dead logs, and up trees searching for insects, spiders, and any other invertebrates that are not fast enough to escape. You can often spot marauding army ants, following trails along fallen logs and tree roots through the undergrowth. If you

look closely, you may see them carrying their butchered prey between their long legs. You may also see workers like those in this picture, linking limbs and forming bridges with their bodies across gaps between logs and leaves, allowing their nest-mates to cross efficiently.



But be careful not to touch the ants—soldiers stand guard over the trail with large, sickle-like jaws agape, ready to bite anyone who intrudes.

Army ants, unlike most types of ant, only return to a permanent nest for part of the year. Most of the time, the entire colony—workers, soldiers, larvae, and the queen—are on the move. Every few days, all colony members assemble in a log or crevice and construct a make-shift nest called a “bivouac” out of their own bodies (see picture).



Photo by: James Hung, Corcovado National Park, Costa Rica

CICADAS

An adult cicada



Exoskeletons of cicada larvae



Photos by: James Hung, Corcovado National Park, Costa Rica

If you walk along the hiking trails in Corcovado in daylight hours, you'll probably hear the deafeningly loud sound of the cicadas. Male cicadas have a resonating chamber in their abdomen and strong muscles that act like vocal cords. They sing with all their might to attract female cicadas, who are silent admirers of their songs. In many places, cicada songs are so loud during the day that birds in the area must change their own singing schedule so as not to be drowned out by cicadas.

It's hard to find cicadas because they are almost always perched high on the trees, where they feed by piercing the leaves and stems of the tree to suck out tree sap. In fact, if you feel droplets of water fall on you from the canopy and it's not raining, it's very possible that it's excreted tree sap that has gone through a cicada's gut! Although it's hard to find adult cicadas, it's often easier to find the empty exoskeletons of their larvae attached to trees. Cicada larvae live underground and only come to the surface to molt—shed their exoskeleton—and emerge as a full-grown adult. These larvae bear little resemblance to the adults and can't sing, but like the adults, they feed on tree sap. They can spend up to several decades underground, making them the longest-living insects in the world!

HERMIT CRABS

Hermit crabs are one of the most abundant creatures on the beach in Corcovado. One can often see several hundred of them gathered at one place, each carrying a different kind of shell (see



Photo by: Karl Grunseich, Corcovado National Park, Costa Rica

picture). Hermit crabs do not grow their own shells. Instead, they must find the shells of dead snails which they carry to protect their soft, vulnerable abdomen.



Photos by: James Hung, Corcovado National Park, Costa Rica

Much like children outgrowing their shoes, hermit crabs must find bigger and bigger shells as they grow. When a hermit crab outgrows its shell it finds a larger one and discards the old one, which is quickly claimed by a smaller hermit crab looking to upsize.

Baby hermit crabs start out life as zooplankton at sea—tiny creatures drifting with the current. As they mature, they move into empty shells, and many species come closer to shore. Larger hermits can leave the water and travel a surprising distance on land to look for food by storing a little bit of water in their shells to keep their gills moist for breathing. Hermits will eat just about anything—dead fish, rotting leaves, bits of food left on the beach, and fallen fruit. Some people have noted that they are especially fond of coconuts!

SPIDERS



A 7cm long *Nephila* spider



A 1cm long jumping spider

Photos by: James Hung, Corcovado National Park, Costa Rica

You can see spiders everywhere in Corcovado if you keep your eyes open for them. Their webs can be found between branches, in crevices on walls, and even on the ground. Some webs are familiarly orb-shaped, like the web of the golden orb weaver (*Nephila*) spider in the picture, while others may be shaped like a sheet, a funnel, a bowl, or a tangled mess of silk. Most species of spiders can produce different kinds of silk for different purposes. Some silks are sticky, for snaring prey (usually flying or crawling insects); while others are not sticky and are used as ladders for the spiders to climb on, or construction material for silk shelters, or pouches to carry eggs in.

Not all spiders spin webs though. Many, like the jumping spider in the picture, roam freely on plants, in the leaf litter, or out in the open. Instead of snagging their prey in sticky silk like their web-spinning relatives, they are often powerfully built to chase down, pounce on, and wrestle their prey to submission. Though these spiders do not spin webs, they still produce silk for other purposes. All spiders are venomous, using their venom to subdue and digest their prey. However, with the exception of a few notorious species, most spiders are harmless to humans, having very weak venom and rarely biting unless you really annoy them.